

US-PAT-NO: 6527471

DOCUMENT-IDENTIFIER: US 6527471 B2

TITLE: Sealing spring fastene

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(32) United States Patent  
Smith et al.

(32) Patent No.: US 6,527,471 B2  
(34) Date of Patent: Mar. 4, 2003

(54) SEALING SPRING FASTENER WITH  
CLOSED CAVITY

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(US)

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended 77 additional under 35  
U.S.C. 154(b) by 57 days

(21) Appl. No.: 08/137,024

(22) Filed: Jan. 10, 2001

(30) Prior Publication Data

US 2002/0001,000 A1 No. A 2002

Related U.S. Application Data

Provisional application No. 60/176,655 filed on Dec. 13,  
2000

Int. Cl.<sup>7</sup> A64B 22/00 (2006.01); A64B 22/02 (2006.01);  
U.S. Cl. 602/991; 602/997; 602/998; 602/999; 602/1000;  
602/1001; 602/1002; 602/1003; 602/1004; 602/1005; 602/1006;  
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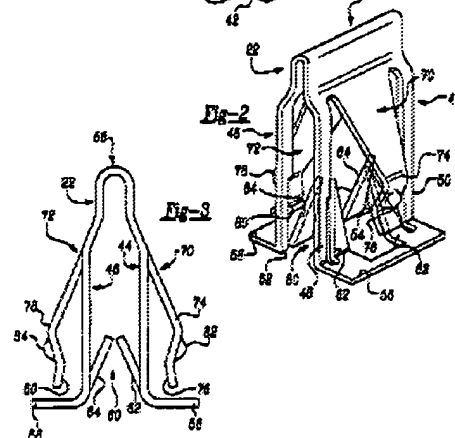
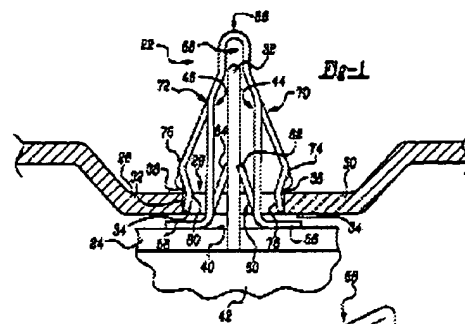
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U.S. Patent

Nov. 7, 2000

Sheet 1 of 3

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Full

US-PAT-NO: 6279207

DOCUMENT-IDENTIFIER: US 6279207 B1

TITLE: Fasteners with increas

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# United States Patent

Patent No.: US 6,379,207 B1  
Date of Patent: Aug. 28, 2001

## FASTENERS WITH INCREASED HOLDING POWER

Inventor: Eusebio Valencia, Newark, NJ (US)

Assignee: WIPAC, Incorporated, Newark, NJ (US)

Notice: Subject to any disclaimer, the term of this patent is hereby extended by 35 USC 41(d) by 5 days.

Appl. No.: 08/444,714

Filed: Feb. 13, 2000

Related U.S. Application Data

Continuation of application No. 08/221,044, filed on Feb. 1, 1994.

Int. Cl. 7: A44B 1/08; A44B 2/02; F16B 21/00

U.S. Cl. 242/29; 242/29; 242/29

Field of Search 242/29; 242/29; 242/29

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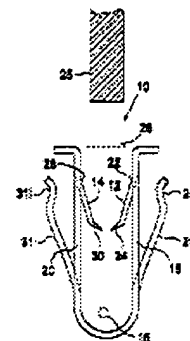
Primary Examiner: M. N. S. S. S.

(74) Attorney, Agent or Firm: Valencia

## ABSTRACT

This invention discloses fasteners characterized by the use of a U-shaped member having a primary portion in a U-shape. When the fastener is used, the primary portion is bent into a U-shape, thereby increasing the holding power of the fastener without increasing the complexity of the fastener, and without increasing the cost of the fastener.

22 Claims, 3 Drawing Sheets



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L11: (2178) (24/662)24/5... | US 6497011 B2 | Tag: S.T1 | Doc: 76...

US-PAT-NO: 6497011

DOCUMENT-IDENTIFIER: US 6497011 B2

TITLE: Vehicle having parts c  
fastener comprising a h

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L11: (2178) (24/662)24/5... | US 6497011 B2 | Tag: S.T1 | Doc: 76...

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77	<input type="checkbox"/>	<input type="checkbox"/>	US 6496372 B1	20021217	9

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L11: (2178) (24/662)24/5... | US 6497011 | Tag: S.T1 | Doc: 76/20...

U.S. Patent Dec. 24, 2002 Sheet 1 of 5 US 6,497,011 B2

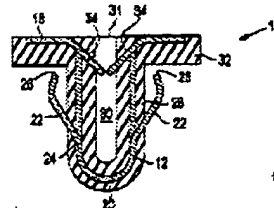


FIG. 1

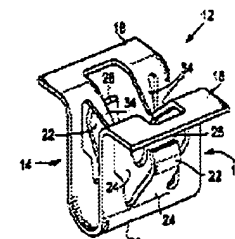


FIG. 2

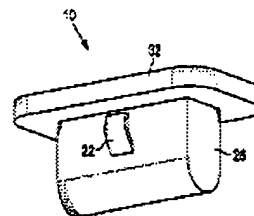


FIG. 3

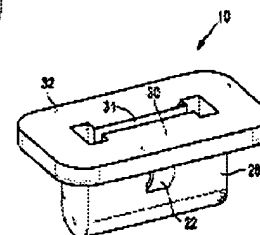


FIG. 4

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US-PAT-NO: 6141837

DOCUMENT-IDENTIFIER: US 6141837 A

TITLE: EDIAS clip for securin  
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	U	1	Document ID	Issue Date	Pages	
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208	<input type="checkbox"/>	<input type="checkbox"/>	US 6164603 A	20001226	9	E
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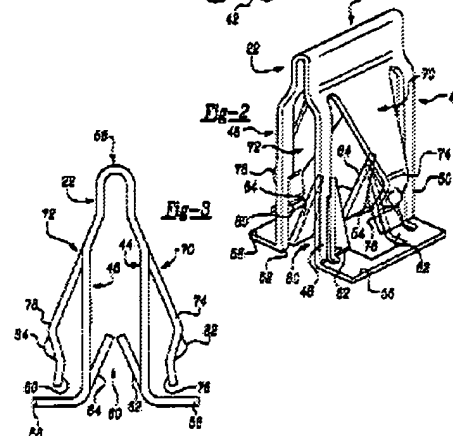
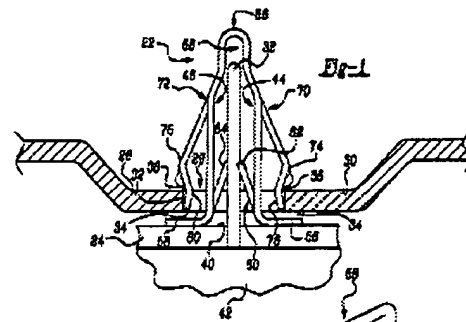
HTML

U.S. Patent

Nov. 7, 2000

Sheet 1 of 3

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